

June 14, 2022

MVE Standing Committee  
Attn: Kjell Anderson, Chair  
1500 Jefferson St SE  
Olympia, WA 98501

RE: Proposal 097 – ERI Compliance

Dear MVE Committee,

The Building Industry Association of Washington (BIAW) gives a voice to 8,000-members that represent builders, remodelers, skilled trades professionals and their associates who help Washington families enjoy the American dream of owning a home. We are writing today in support of Proposal 097 – ERI Compliance. While this proposal was not recommended by the Residential Energy Code Technical Advisory Group, we respectfully dissent in that recommendation.

Research has shown that simulated performance alternative modeling (performed by approved software) has the ability to address the requirements within the WSEC-R for both fuel normalization and energy efficiency. By using approved software and comparing the proposed structure to a reference design, the design of a structure can demonstrate that it can meet or exceed the required carbon emission reduction and building performance goals.

There are many energy modeling options available but jurisdictions across Washington have already begun to use the Energy Rating Index (ERI) as a standard for compliance with the 2018 WSEC-R. Enclosed you will find a model ‘Simulated Performance Alternative Program’ document that has been implemented in about a dozen jurisdictions in the state. The ERI score is a numerical score where 100 is equivalent to the 2006 IECC and 0 is equivalent to a net-zero home. Each integer value on the scale represents a one percent change in the total energy use of the rated design relative to the total energy use of the ERI reference design.

Utilizing ERI statewide would provide builders the option to demonstrate compliance with the Washington State Energy Code. Additionally, ERI allows builders the flexibility in choosing building materials and appliances compared to the availability of selections in the R406 credit options table. Baseline WSEC-R code requirements (such as insulation and window efficiency) would still be required.

Proposal 097 recommends a maximum ERI score for each climate zone recognized in Washington. For Climate Zone 4, the maximum ERI rating is 43 and in Climate Zone 5, the maximum ERI rating is 44. ERI has been used in the IECC as a compliance path since 2015. In the 2021 IECC, Climate Zone 4 maximum ERI value is 54 and Climate Zone 5 has a value of 55. The Washington State Building Code Council has a tendency of adopting codes more stringent than the IECC model code. Proposal 097 represents a more stringent requirement than the model code while also providing an alternative pathway to compliance with WSEC-R for builders.

We urge the MVE Standing Committee to reconsider Proposal 097 as an addition to Washington State's Residential Energy Code.

Sincerely,

Andrea Smith  
Policy & Research Manager  
Building Industry Association of Washington

The Building Officials representing \_\_\_\_\_ have evaluated the 2021 Washington State Energy Code and have initiated a program for the purpose of applying Section R405 from the residential provisions of the 2021 Washington State Energy Code (WSEC-R); without the requirements for additional energy credits.

This document serves as the guiding instructions as to the program requirements. The basis for this program is the Alternative Materials, Design and Methods of Construction and Equipment provisions as outlined in WSEC-R Section R102. Research has shown that *simulated performance alternative* modeling (performed by *approved* software) has the ability to address the Fuel Normalization Credits, and to design residential structures to the worst-case scenario regarding ACCA Manual J requirements for purposes of documenting a building's energy efficiency. By using *approved* software, the design of a structure can demonstrate that it can meet or exceed the required Carbon emissions reduction, and the Energy Rating Index (ERI) as referenced in WSEC-R.

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\_\_\_\_\_, Building Official

Enclosed:        *Simulated Performance Alternative Program*



## Simulated Performance Alternative Program

If the Simulated Performance Alternative is being proposed without additional energy credits per WSEC-R Section R401 and R405, the following steps must be taken to comply with this program:

- The applicant will need to engage with an *approved* third-party consultant that is also certified through International Code Council (ICC) as Residential Energy Inspector/Plans Examiner.
- The third-party consultant will utilize an *approved* software that can generate a report to demonstrate the named residential structure meets or exceeds the Fuel Normalization Credits, the reduction in CO<sub>2</sub> emissions, and an ERI Index from the table below; this will be required during permit plan review.
- Once the report is accepted during the plan review process it will be issued with the approved building permit.
- The third-party consultant will perform the required inspections listed within this document, and provide the required reports to the applicant. Applicant shall be responsible for providing documentation to the Permit Center of the permitting agency and ensuring that it is made available on-site for reference by building inspection staff:

Final ERI Established				
Primary Heat Source	Dwelling Size as defined by WSEC Section R405.3 (#1, 2, 3, 4)			
	Small	Medium	Large	R-2
Electric-resistance	57	52	Contact the Authority Having Jurisdiction (AHJ)	
Gas	69	46		
Heat-pump	66	67		

- **Air seal inspection** – after all penetrations in framing and building envelope have been sealed.
  - ✓ Will provide written corrections and recommendations per field inspections; final inspection results will be posted on commissioning sticker on or reasonably near the building electrical panel.
- **Insulation inspection** – after air seal, before drywall/interior wall finishes.
  - ✓ Will provide written corrections and recommendations per field inspections; final inspection results will be posted on commissioning sticker on or reasonably near the building electrical panel.



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- **Windows and Doors inspection** – after installation, prior to removal of U-Value identifiers.
  - ✓ Will provide written corrections and recommendations per field inspections; final inspection results will be posted on commissioning sticker on electrical panel.
  
- **Final Inspection(s)/Testing**
  - ✓ Inspect structure when permanent doors are installed, mechanical systems and equipment are fully functional, attic and crawlspace insulation is installed, and appliances installed.
  - ✓ Perform blower door test, duct test, and mechanical system balance. Final inspections results will be posted on commissioning sticker on electrical panel. This test can be done by a separate contractor/consultant and would provide the results to third-party special inspector for inclusion in their final report.
  - ✓ Home will then be modeled/certified, documentation shall be provided at time of building permit final inspection or prior to the issuance of a Certificate of Occupancy.



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## Simulated Performance Alternative Acknowledgement Form for WSEC-R

This form and information are accepted by \_\_\_\_\_

The referenced project requires special plans examination and/or special inspection in accordance with the simulated design and Washington State Energy Code – Residential Provisions (WSEC-R). This document is not intended to address all aspects or regulatory requirements for a project and should serve as a starting point for your investigation. For detailed information on a particular project, permit, or code requirement refer directly to the applicable file and/or code/regulatory documents, and the requirements of the WSEC-R Chapters 1-5 or contact the appropriate Department or staff. Please acknowledge below and return to the Authority Having Jurisdiction. This form is required to be submitted at time of permit submittal.

**If separate agencies/individuals are performing the simulated performance modeling and inspection services, separate forms will be required.**

Date:

Project Address:

Project Name:

Project Owner:

Phone:

SPE/SI/Utility/Etc.:

Phone:

Address:

Contact Name:

Phone:



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## STATEMENT OF UNDERSTANDING

We hereby acknowledge that we have been engaged by \_\_\_\_\_ for the purposes of conducting the Simulated Performance Alternative modeling services and field inspection on the referenced project pursuant to the provisions of the Washington State Energy Code, as it relates to the above stated project. We are aware that as an energy code reviewer/inspection agent, duties and responsibilities as set forth in this program policies (check applicable):

- ☐ Prepare and submit plan documents
- ☐ Third-Party inspection, observation and approval of work

All discrepancies shall be brought to the immediate attention of the designer/contractor for correction. If uncorrected the proper design authority and the Building Official of the AHJ will be notified. Any work identified as not being in conformance is required to be brought into conformance, as is acceptable to the special inspector. In addition, a final signed report is required to be submitted prior to the issuance of a Certificate of Occupancy. This report must state that all required inspections of the work and the project have been completed in conformance with the approved plans and specifications and the applicable provisions of the Washington State Energy Code – Residential Provisions, and all known corrections have been made.

SPE/SI/Utility Signature: \_\_\_\_\_ Certification No: \_\_\_\_\_

Owner: \_\_\_\_\_ Architect: \_\_\_\_\_

Contractor: \_\_\_\_\_